course falls 600 feet in 43 miles. The Feshie makes a fan across the flat middle section of the Spey valley. It is assumed that the Spey once had a normal slope, and it is suggested that a relatively recent uplift in its lower third flattened the middle course and steepened the lower course. Explanation is thus found for the action of the stream in aggrading its middle portion with drift and in cutting down its lower portion in bed rock; but no confirmation for the suggestion of recent uplift is looked for in the neighboring valleys; the success of the suggestion in explaining what it was invented to explain is taken as its verification, without looking for unexpected consequences.

THE RIES.

The divide between the headwaters of the Main and Neckar on the northwest and the Danube on the southeast is in general determined by the crest of a rather pronounced cuesta of Jurassic limestone, part of which is known as the Swabian Alp. The escarpment of the cuesta, facing northwest, is usually well defined; the back slope, towards the Danube, is on the whole remarkably simple and systematic; but near the middle of its curved length there is a curious, roughly hexagonal depression, called the Ries, about 18 k. in diameter, rather flat floored and well enclosed by the hilly borders of the uplands, with Nördlingen as its chief town. This highly abnormal feature has been likened to a gigantic *maare*, or pit-crater; but although volcanic rocks are confusedly mixed with many others—decomposed granite, schists, mesozoic, tertiary and quaternary—in the floor of the depression, a detailed study by Gruber ('Das Ries, eine geographisch-volkswirthschaftliche Studie,' *Forsch deut. Landes u. Volkskunde*, XII., 1899, 193–291, map, 12 figs.), ascribe the basins to dislocations, similar to those by which various other depressions have been produced in central Germany. It is not clearly explained, however, in just what shares dislocation and denudation are responsible for the basin; no definite statement is made as to the form that the surface had when dislocation took place, as to the form that dislocation produced, or as to the work of denudation on the dislocated form. It is, therefore,

difficult to form a clear mental picture of the theoretical forms by which the observed forms are to be explained. In the second part of the essay, the people, settlements, occupations and products of the Ries are described.

W. M. Davis.

BOTANICAL NOTES.
'SAVE YOUR PUFF-BALLS.'

Under this title Mr. C. G. Lloyd, the well-known student of the higher fungi, has issued a circular asking botanists and others to save puff-balls of all kinds (excepting the large ones) for him. He intends to publish 'in the near future a detailed description of all the Gasteromycetes' and solicits specimens from every one who can help him. Due credit is promised for all specimens sent to him for this purpose. The monograph is to be profusely illustrated with photo reproductions of typical specimens of the species and also with micro-photographic enlargements of the spores and capillitium by Dr. Edward Thompson, an expert in this line of work.

In his directions to collectors Mr. Lloyd says: "For the purpose of study puff-balls must be ripe, that is, they must be full of dry dust. When young most kinds are white and when you cut them they appear like 'cottage cheese.' They are mostly good to eat in this condition, but not to study. The best time to gather them is just when they are getting ripe, just when the white has become moist and discolored and the spines are just drying up and beginning to flake off." * * * "Simply pick them up, handle them carefully so as not to mash them, and if they are just ripening and are moist, spread them out on the floor in a garret or where they will be out of the way and let them dry. Then pack them loosely in a little wooden box; don't squeeze or bruise them." "If your boxes are not full, pack in loosely a little cotton or tissue paper (cotton is better) to fill out. Do not wrap in paper or put in paper bags." Send the boxes, securely wrapped, by mail or express, to Mr. Lloyd at Court and Plum streets, Cincinnati, Ohio.

A NEW WORK ON TREES AND SHRUBS.

The announcement is made by Messrs. Houghton, Mifflin & Co., of Boston, Mass., that

Professor Charles S. Sargent, author of 'The Silva of North America,' has under preparation a work to be known as 'Trees and Shrubs' and to consist of illustrations and brief descriptions of new and little-known trees and shrubs, chiefly from material obtained from the Arnold Arboretum. It will not be confined wholly to North American plants, but 'will include also the woody plants of other regions, especially those of the northern hemisphere, which may be expected to flourish in the gardens of the United States and Europe, and those of special commercial or economic interest and value.' It is to be published at irregular intervals, and each part will contain twenty-five plates. It is the hope of the publishers that one part will appear in the fall of 1901, and that at least two parts may be issued each year. From the specimen plates and pages of text it is evident that this is to be a work second only to the 'Silva' in importance and value to working botanists and horticulturists.

THE OAKS OF THE CONTINENTAL DIVIDE.

BOTANISTS who have puzzled over the little oak trees of the Pike's Peak region in Colorado will be interested in a paper by Dr. Rydberg in a *Bulletin of the New York Botanical Garden* (Vol. II., No. 6), in which he attempts to bring something like order out of the chaotic condition which has existed hitherto. After several seasons of field work in the Rocky Mountains, Dr. Rydberg finds that the Colorado oaks heretofore referred to *Quercus undulata* and *Q. gambelii* are more properly to be referred to ten or eleven species, three of which prove to have been undescribed. About Pike's Peak there are no less than six species, instead of the single species *Q. undulata;* these are *Q. utahensis, Q. leptophylla* (new), *Q. gunnisonii, Q. nitescens* (new), *Q. novo mexicana* and *Q. gambelii.* Dr. Rydberg found it necessary to extend his studies throughout the mountain region, and as a result he has very considerably enlarged the list of species for this portion of the continent. His descriptive list includes no less than twenty-nine names, of which the new species are : *Q. submollis* (Arizona), *Q. vreelandii* (Colorado to New Mexico), *Q. leptophylla* (Colorado), *Q. nitescens* (Colorado to Utah), *Q. eastwoodiæ* (Utah), *Q.*

havardi (Texas), *Q. pauciloba* (Arizona), *Q. wilcoxii* (Arizona to Utah and Nevada).

CHARLES E. BESSEY.

THE UNIVERSITY OF NEBRASKA.

CONFERRING OF DEGREES AT THE UNIVERSITY OF CHICAGO.

As we have already recorded, the University of Chicago conferred in connection with its decennial eleven honorary degrees. President Harper, in welcoming the men of science on whom the LL.D. degree was conferred, spoke as follows :

Edward Charles Pickering,

during twenty-five years Payne Professor of Astronomy and Director of the Astronomical Observatory of Harvard College, an observatory developed through your labors into an institution foremost in research on two continents ; organizer in the United States of a system of laboratory teaching of great influence on education in physical science ; student of optics ; discoverer of variable stars and investigator in stellar photometry ; originator of many astronomical applications of photography and spectroscopy, which have revealed the constitution of the stellar universe : —for these distinguished services, and especially for the last-named, by the authority of the Board of Trustees of the University of Chicago, upon nomination of the University Senate, I confer upon you the degree of Doctor of Laws of this University, with all rights and privileges appertaining thereunto.

Jacob Henry van't Hoff,

Professor of Physical Chemistry in the University of Berlin, investigator who has brought to bear upon chemical problems a keen and logical mind, endowed with speculative and imaginative powers of the highest order, founder of the theory explaining the space relations of atoms in molecules—a theory which is essential to a comprehension of the chemistry of organized and inorganized matter ; master in the field of dynamic chemistry ; investigator and brilliant discoverer in the domain of the modern theory of solutions, a theory which constitutes one of the greatest advances made by chemical science in the last quarter of a century :—for these splendid and fertile achievements, by the authority of the Board of Trustees of the University of Chicago, upon nomination of the University Senate, I confer upon you the degree of Doctor of Laws of this University, with all the rights and privileges appertaining thereunto.

Charles Doolittle Walcott,

Director of the United States Geological Survey, Superintendent of the National Museum, author of